L 2453-66
ACCESSION NR: AP5024332

(Institute of Nuclear Physics, Moscow State University)

SUBMITTED: 30Mar65 ENCL: 00 SUB CODE: NP

NO REF SOV: 002 OTHER: 004

BVK
Card 2/2

L 2453-66 EWT(m) DIAAP
ACCESSION NR: AP5024332 UR/0367/65/002/002/0232/0235

41
40
13

AUTHOR: Grishanova, S. I.; Kabachnik, N. M.

TITLE: *M*1 excitation in the Be^9 nucleus 19

SOURCE: Yadernaya fizika, v. 2, no. 2, 1965, 232-235

TOPIC TAGS: beryllium, excited nucleus, nuclear shell model, inelastic scattering, electron scattering

ABSTRACT: The authors calculate the probability of *M*1 transitions from the ground state in the Be^9 nucleus ($I^{\pi} = 3/2^-$) to the $5/2^-$ and $1/2^-$ levels with energies in the 2.4 Mev region for the case of inelastic 180° scattering of electrons. The calculations are based on the nuclear shell theory. The contribution of the form factor for the *M*1 transition to the total form factor is evaluated for various scattering angles and initial energies. "The authors are sincerely grateful to V. V. Balashov for stimulating interest in the work and for useful consultation." Orig. art. has: 2 figures, 3 formulas, 1 table.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta

Card 1/2

L 2453-66 EWT(m) DIAAP
ACCESSION NR: AP5024332 UR/0367/65/002/002/0232/0235

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ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta

Card 1/2

RED'KIN, N.P. (Chernovtsy); GRISHANOVA, A.A.; vrach-stomatolog (Moskva); KANTAUSKAS, V.A. vrach (Kaunas); PERGAMIN, A.P. (Odessa); KRASNOV, L.M., inzh. (Dnepropetrovsk).

Editor's mail. Zdorov'e 9 no.10:26-27 O'63 (MIRA 16:12)

ACC NR: AN7002251 SOURCE CODE: UR/9008/67/000/027/0004/0004

AUTHOR: Gorshkov, S. G.; Grishanov, V. M.; Kasatonov, V. A.; Sergeyev, N. D.; Borzov, I. I.; Kotov, P. G.; Ivanov, V. N.; Fominykh, V. A.; Butoma, B. Ye.; Lobov, S. M.; Orel, A. Ye.; Chursin, S. Ye.; Amel'kov, N. N.; Andreyev, V. A.; Chabanenko, A. T.; Anisimov, I. A.; Smirnov, N. I.; Volosatov, B. M.; Slivin, Ye. M.; Noskov, A. K.; Karaganov, L. I.; Sutyagin, B. V.; Sukachev, K. P.; Sukhov, S. M.; Vashantsev, V. I.; Tkachenko, T. I.; Napitukhin, V. A.; Smirnov, M. S.; Gorokhov, A. S.

ORG: none

TITLE: Death of Vice-admiral V. P. Razumov

SOURCE: Krasnaya avezda, no. 27, 01 Feb 67, p. 4, col. 6

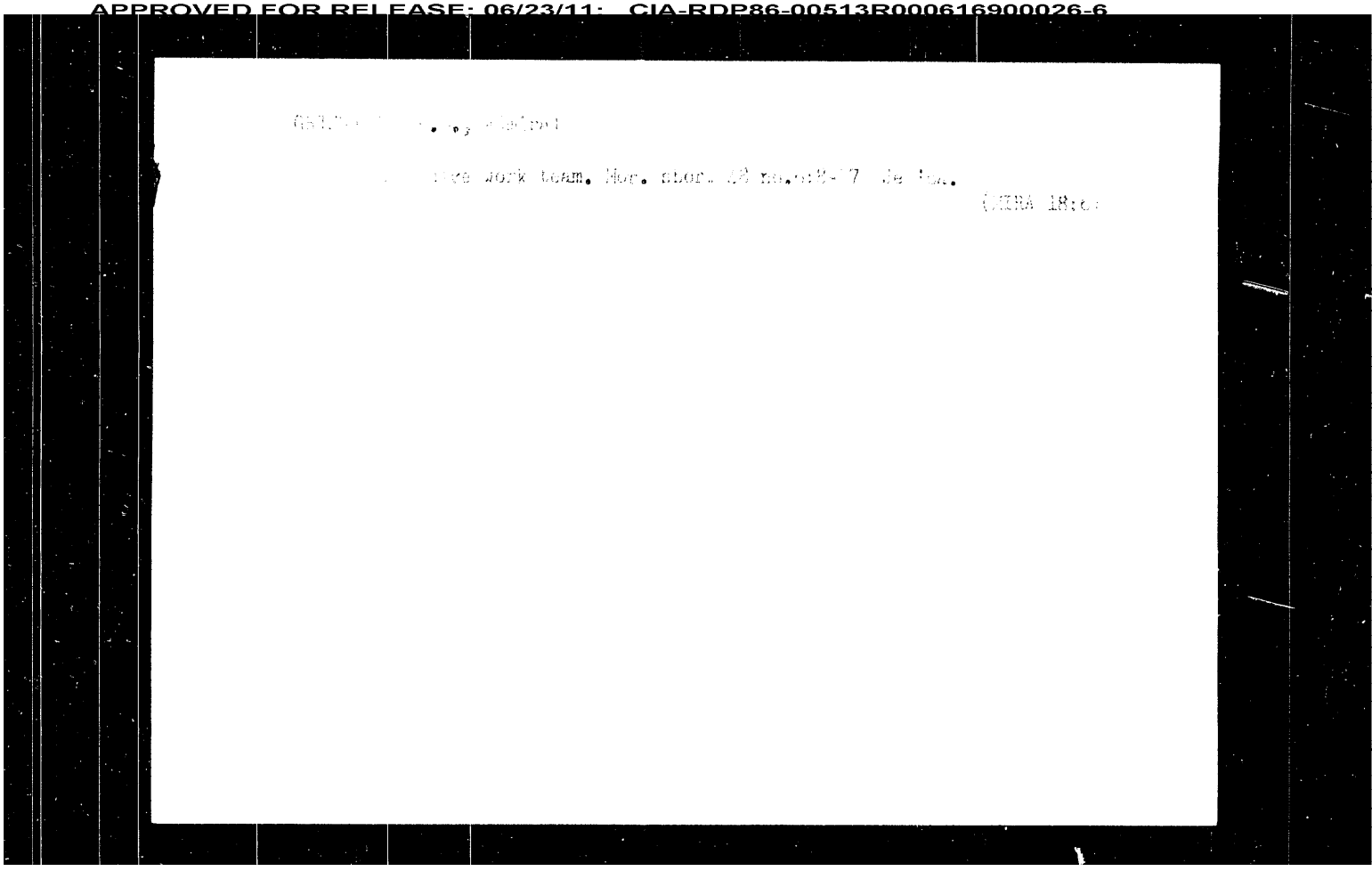
TOPIC TAGS: military personnel, scientific personnel

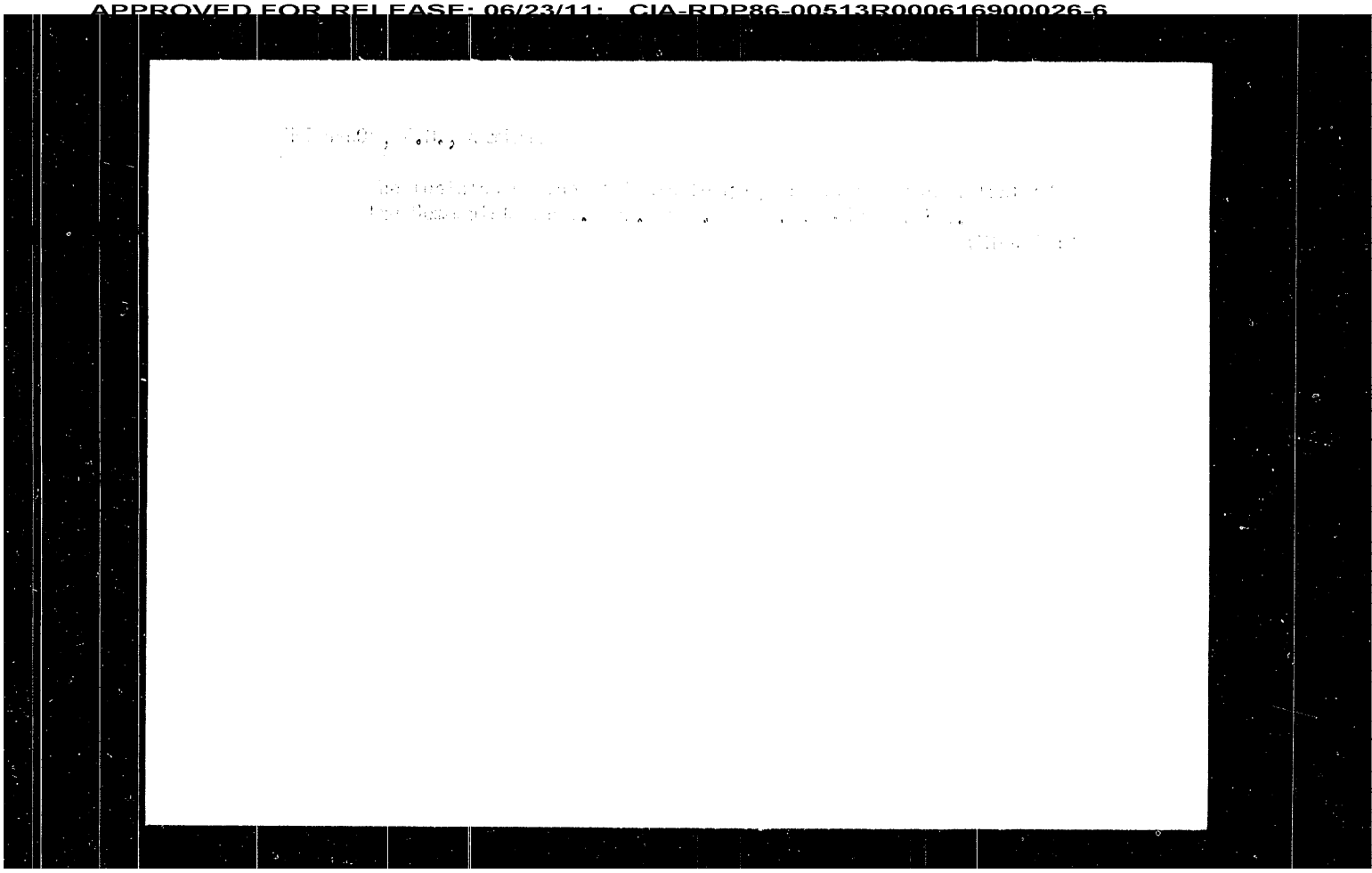
ABSTRACT:

Engineer Vice-admiral V. P. Razumov is dead. He was born in 1909. In the postwar period he served with the Northern fleet and the main administration of the Navy.

SUB CODE: 05/ SUBM DATE: none / ATD PRESS: 5112

Card 1/1 UDC: none





GRISHANOV, V.M., vitse-admiral

Along the course traced by Lenin toward new heights in ideological work. Morskoi sbor. 46 no.8:3-16 Ag '63. (MIRA 16:10)

(Communist party of the Soviet Union--Party work)

GRISHANOV, V., admiral

Mighty fleet of the Soviet [illegible]. Komm. Vooruzh. Sil 7 no. 13:[illegible]
JI '65.

GRISHANOV, V., vitse-admiral

We should master Lenin's style of work. Komm.Vooruzh.Sil 2 no.17:11-20 S '62. (MIRA 15:8)

1. Zamestitel' nachal'nika Glavnogo politicheskogo upravleniya Sovetskoy armii i Voyenno-morskogo flota.
(Russia—Navy—Political activity)

GRISHANOV, V., vitse-admiral

Soviet Navy Day. Komm.Vooruzh.Sil 2 no.13:18-24 Jl '62.
(MIRA 15:7)

1. Zamestitel' nachal'nika Glavnogo politicheskogo upravleniya Sovetskoy Armii i Voyenno-Morskogo Flota.
(Russia--Navy)

GRISHANOV, V., vitse-admiral

Soviet sailors make due preparations for the party congress.
Komm.Vooruzh.Sil 1 no.16:52-56 Ag '61. (MIRA 14:7)
(Russia--Navy)

GRISHANOV, N., inzhener-polkovnik zapasa, dotsent, kand. tekhn. nauk;
UMANSKIY, S., inzh.

Pressure suit for air pilots and astronauts. Av. i kosm. 47 no.7:
54-60 Jl '65. (MIRA 18:6)

L 55932-65

ACCESSION NR: AP5016684

stream. Both streams, entering the distribution duct, are regulated by separate stopcocks. In flight, temperature is controlled by such automatic regulators as the RTA-16-9. In the new system the temperature of each compartment is controlled separately. In addition to the common air conditioning system, there is an individual electric fan installed at each row of seats. Air pressure is maintained by three automatic regulators. To an altitude of 5240 m, pressure is maintained at a constant 760 mm Hg, at a greater altitude, it is kept at 0.5 kg/cm^2. In addition to the main regulators, there are safety valves. [KT]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: AC, IE

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4032

Card 2/2

L 55932-65 EWT(l)/EWG(v)/T-2 Pn-5

ACCESSION NR: AP5016684 UR/0084/65/000/007/0028/0028

AUTHOR: Grishanov, N. (Engineer); Kalashnik, V. (Engineer); Smirnov, N. (Engineer)

TITLE: Climate in an aircraft

17
B

SOURCE: Grazhdanskaya aviatsiya, no. 7, 1965, 28

TOPIC TAGS: passenger aircraft, aircraft air conditioner, aircraft cabin equipment

ABSTRACT: A greatly improved air conditioning system has been developed for channeling air directly into the passenger compartments of the AN-10 passenger aircraft, bypassing the panel ducts. The panel system is switched on only after a given temperature is attained. In this system, hot compressed air from the compressors of all four engines passes through stopcocks, pressure limiters, return valves, and into the common wing duct. The air then moves to the cooling units consisting of a radiator and two simultaneously operating turbocooling units located in the left fairing of the undercarriage. From these units, the air passes along five ducts into the cockpit, to the panel ducts of the three passenger compartments, and to an air-distribution duct located in the upper portion of the compartments. Temperature in the compartments is maintained by mixing hot air into the basic cooled-air

Card 1/2

BYKOV, Leonid Tikhonovich; YEGOROV, Mikhail Spiridonovich; TARASOV, Pavel Vasil'yevich; GRISHANOV, N.G., kand.tekhn.nauk inzhener-polkovnik, retsenzent; KRASIL'NIKOV, S.D., inzh., red.; PETROVA, I.A., red.; ROZHIN, V.P., tekhn.red.

[Equipment for planes plying at high altitudes] Vysotnoe oborudovanie samoletov. Moskva, Gos. izd-vo obor. promyshl., 1958. 392 p. (MIRA 11:5)
(Airplanes)

To Develop a Scientific Method of Cognition Among Students - Circle Members Became Lecturers and Propagandists

population, particularly on Communist morals, on duty, honor and conscience, patriotism, collectivism, etc.

ASSOCIATION: Kirovskiy pedagogicheskiy institut imeni V.I. Lenina (Kirov Pedagogic Institute imeni V.I. Lenin)

To Develop a Scientific Method of Cognition Among Students - Circle Members Became Lecturers and Propagandists

firmly established themselves in the life of vuzes, and the following 8 articles tell of the work, energy and enthusiasm in solving serious scientific problems by the circles. The Scientific Student Circle on Philosophy of the Department of Foreign Languages of the Kirov Pedagogical Institute was established 5 years ago. Ten to 12 students of the IV and V courses participate in its work every year. Many of the Institute graduates, former members of the circle, have become good lecturers, and propagandists. The author describes how the work in the circle is organized, stating that last year the circle began to work on the themes of V.I. Lenin's book "Materialism and Empiriocriticism". Members of the Philosophical Circle also conduct popular discussions for the

SOV/3-59-3-21/48

22(1)

AUTHOR: Grishanov, L.K., Candidate of Philosophical Sciences

TITLE: To Develop a Scientific Method of Cognition Among Students (Formirovat' u studentov nauchnyy metod poznaniya) - Circle Members Became Lecturers and Propagandists (Kruzhkovtsy stali lektorami, propagandistami)

PERIODICAL: Vestnik vysshey shkoly, 1959, Nr 3, pp 51-52 (USSR)

ABSTRACT: Paragraph 36 of the new law on people's education provides that "when training specialists with higher education, serious attention must be paid to form in the students a scientific method of cognition, a creative approach towards becoming proficient in sciences, a responsible attitude to studies, and independence in work". The entire work of a higher educational institution is called upon to serve these aims. The activity of students scientific circles, which in recent years has gained in scope, is to serve the same purpose. These circles have

Card 1/3

AUTHOR: Grishanov, L.K., Editor of the Newspaper "Po leninskomu puti"

TITLE: Correspondents Help a Vuz Newspaper to Become an Active, Interesting Publication (Korrespondenty pomogayut vuzovskoy gazete stat' boyevoy, interesnoy)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 10, pp 86 - 87 (USSR)

ABSTRACT: The Kirovskiy pedagogicheskiy institut imeni V.I. Lenina (Kirovskiy Pedagogical Institute imeni V.I. Lenin) is issuing a weekly students' paper. The author describes the work of the editorial staff and of the paper's correspondents who are students. There is 1 photo.

Card 1/1

GRISHANOV, I.P.

Portable three-phase testing unit. Izm.tekh. no.12:26-27 D '60.
(Electric meters--Testing)

GRISHANOV, G. [Hryshanov, H.]

Assistant to a foreman. Znan.ta pratsia no.2:11 F '59.
(MIRA 12:10)

1. Parvyy Kiyevskiy avtoremontnyy zavod.
(Kiev--Automobiles--Repairing)

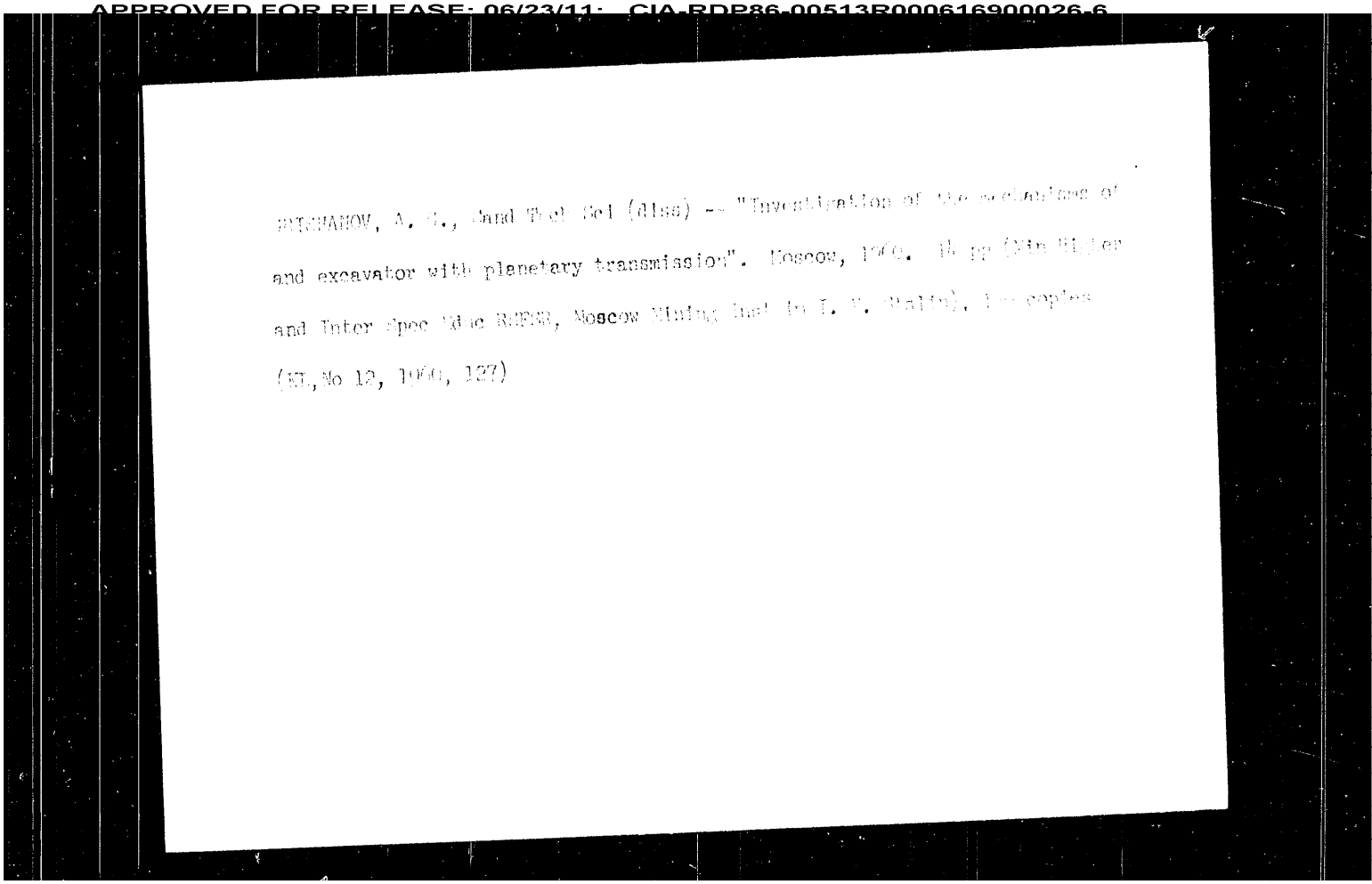
GRISHANOV, A.G., kand.tekhn.nauk; PANYUKHIN, V.I., kand.tekhn.nauk

Planetary winch with an automatic brake. Stroi. i dor. mash. 8 no.5:11-13 My '63. (MIRA 16:5)
(Winches—Brakes)

GRISHANOV, A.G., inzh.

Main winch of a multimotor excavator with planet gearing. Izv.vys. ucheb.zav.; gor.zhur. no.2:123-125 '60. (MIRA 14:5)

1. Moskovskiy gornyy institut.
(Winches) (Gearing) (Excavating machinery)



ZYSHAKOV, A. G., Cand Tech Sci (diss) -- "Investigation of the operations of and excavator with planetary transmission". Moscow, 1960. 16 pp (Min Higher and Inter Spec Educ RSFSR, Moscow Mining Inst im I. V. Stalin), 150 copies (KL, No 12, 1960, 127)

GRISHANOV, A.G.

Hydromechanical transmissions of mine diesel locomotives.
[Izd.] LONITOMASH 52:201-206 '59. (MIRA 12:12)
(Diesel locomotives--Hydraulic drive)

GRISHANOV, A.G., inzh.

Adoption of planet gears in the drives of a multimotor excavator.
Nauch.trudy MGI no.29:181-190 '59. (MIRA 14:4)

(Excavating machinery) (Gearing)

25(2) PHASE I BOOK EXPLOITATION SOV/2779

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Leningradskoye oblastnoye pravleniye

Gidrodinamicheskiye peredachi (Hydrodynamic Transmissions) Moscow, Mashgiz, 1959. 245 p. (Series: Its: Trudy, vyp. 52) 5,000 copies printed.

Ed.: V.P. Gur'yev, Candidate of Technical Sciences, Docent; Tech. Ed.: L.V. Shchetinina; Managing Ed. for Literature on Machine-Building Technology (Leningrad Division, Mashgiz): Ye.P. Naumov, Engineer.

PURPOSE: This book is intended for engineering and technical personnel in the field of hydraulic transmission. It may also be used as a textbook for students of higher technical schools.

COVERAGE: The book is a collection of 20 papers read at the first conference on hydrodynamic transmissions held in Leningrad from 9-11 December, 1957, at which problems of calculation, design, production and operation of hydraulic clutches and hydraulic converters widely used in industry were discussed.

Card 2/5

GRISHANOV, A., inzh.; ZAGOVALKO, M.

Excellent track maintenance on our division. Zhel.dor.transp. 36 no.6:65-69 Je '55. (MIRA 12:4)

1. Nachal'nik Kamyshlovskoy distantsii puti (for Grishanov).
2. Kamyshlovskaya distantsiya puti (for Zagovalko).
(Sverdlovsk Province--Railroads--Track)

GOLYSHEVA, M.G.; GRISHANKOVA, Ye.V.; USPENSKAYA, V.E.; TSIBUL'SKAYA, M.I.; GOFMAN, L.Kh.; VASINA, T.A.

Preservation of Eremothecium ashbyii in active state. Mikrobiologiia 34 no.4:661-665 Jl-Ag '65. (MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.

IYERUSALIMSKIY, N.D.; SHEVCHENKO, L.A.; GRISHANKOVA, Ye.V.

Change in some physiological requirements of yeasts as a result of adaptation to streptomycin. Mikrobiologiia 32 no.1: 13-16 '63 (MIRA 17:3)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.

IYERUSALIMSKIY, N.D.; GRISHANKOVA, Ye.V.; SHEVCHENKO, L.A.

Change in the physiological requirements of Bacillus idosus under the action of streptomycin. Mikrobiologiia 31 no.6:995-1001 N-D '62. (MIRA 16:3)

1. Institut mikrobiologii AN SSSR.
(STREPTOMYCIN) (BACTERIA, SPOREFORMING)

L 36092-66
ACC NR: AP6015206

paraffin-base petroleum. It was found that only certain mycobacteria and bacteria grow in aromatic hydrocarbons. Orig. art. has: 3 tables.

SUB CODE: 06/11/ SUBM DATE: 18Jan65/ ORIG REF: 003/ OTH REF: 009

LS
Card 2/2

L 36092-66 EWT(m)/T WE

ACC NR: AP6015206 (A) SOURCE CODE: UR/0411/65/001/002/0163/0166

AUTHORS: Iyerusalimskiy, N. D.; Andreyeva, Ye. A.; Grishankova, Ye. L.; Golovlev, Ye. L.; Dorokhov, V. V.; Zhukova, L. N.

ORG: Institute of Microbiology, Academy of Sciences, SSSR, Moscow (Institut mikrobiologii Akademii nauk SSSR)

TITLE: A study of the microflora of sewage of petroleum refineries

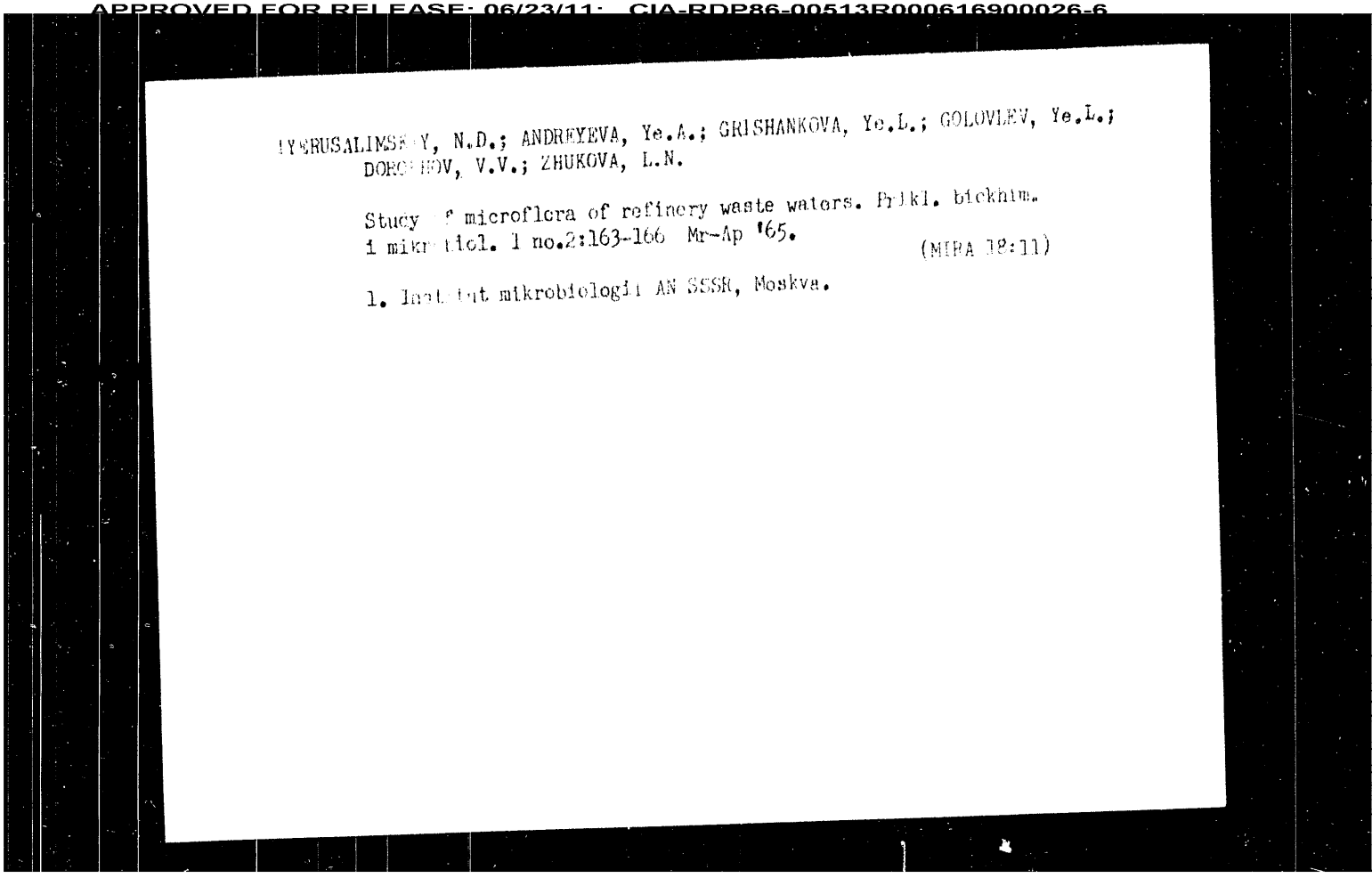
SOURCE: Prikladnaya biokhimiya i mikrobiologiya, v. 1, no. 2, 1965, 163-166

TOPIC TAGS: bacteria, fuel microorganism, industrial waste, petroleum refining, yeast, aromatic hydrocarbon, diesel fuel, kerosene

ABSTRACT: The results of a study of active slime from petroleum refineries are given. Active slimes from waste phenolic water and from oil traps (purified of petroleum by six-fold extraction by benzene) were studied. Recent and old slimes from oil refinery No. 4 and a sample of slime from the trap of No. 4 were also studied. The specimens were kept in the active state in Sengen's medium at pH 7. From the slimes, 575 cultures were extracted, and 145 other cultures were extracted from similar sources. The mycobacteria were 44%, the bacteria 28%, and yeast 26%. All the bacteria were gram-negative nonspore-forming. They were represented mostly by Pseudomonas and Achromobacter. The yeasts were Candida and Torulopsis. All of the extracted microorganisms grew well in pure kerosene, pure paraffin, diesel-fuel distillate, and

UDC: 622.35+613.663

Card 1/2



IYGRUSALIMSKIY, N.D.; ANDREYEVA, Ye.A.; GRISHANKOVA, Ye.L.; GOLOVLEV, Ye.L.; DOROFEYEV, V.V.; ZHUKOVA, L.N.

Study of microflora of refinery waste waters. Prikl. biokhim. i mikrobiol. 1 no.2:163-166 Mr-Ap '65. (MIRA 18:11)

1. Institut mikrobiologii AN SSSR, Moskva.

GEORGIYEV, A.Y. [Georgiev, A.I.]; GRISTAN, Ye.L.; GRIGHANKOVA, Ye.A.

Studying the concentratability of manganese carbonate ores from the "Obrochishche" deposit in the People's Republic of Bulgaria for the purpose of obtaining raw materials suitable for the making of ferroalloys. Izv. vys. ucheb. zav.; chern. met. 8 no.9:22-27 '65. (MIRA 18:9)

1. Moskovskiy institut stali i splavov.

IYERUSALIMSKIY, N.O., GRISHANKOVA, YE.A., SHEVCHENKO, L.F.

Effect of streptomycin on metabolism in microbes.*

Report submitted to the Intl. Congress for Microbiology
Montreal, Canada 19-25 Aug 1962

The influence of the mineralogical composition of molybdenum concentrates on the process of their roasting. (Cont.)

after check experiments on industrial furnaces, new standards should be prepared. There are 4 tables, 2 figures and 3 Slavic references.

ASSOCIATION: TsNIIChM. (Central Scientific Research Institute of Ferrous Metallurgy)

AVAILABLE:

Card 2/2

133-5-10/27

AUTHOR: Khazanova, T.P., Iyakishev, N.P. and Grishankova, E.A.

TITLE: The influence of the mineralogical composition of molybdenum concentrates on the process of their roasting. (Vliyaniye mineralogicheskogo sostava molibdenitovykh kontsentratov na protsess obzhiga)

PERIODICAL: "Stal'"(Steel), 1957, No.5, 425-429 (U.S.S.R.)

ABSTRACT: A laboratory investigation of the process of roasting molybdenum concentrates was carried out. Roasting temperature 600 and 650 and 700 °C. Sulphur content of the final product was taken as a roasting criterion. The behaviour of molybdenum concentrates during roasting is determined by their mineralogical composition. The individual minerals have the following influence on the process: a) calcite - negative, due to the formation of stable calcium sulphates which increase the final sulphur content in the roasted product; b) chalcopyrite in combination with calcite - negative; c) quartz - positive; d) galenite - has no influence but its content is limited by the conditions of subsequent production of ferro-molybdenum; and e) feldspars, hematite, grey copper ore have no noticeable effect on the roasting process. As the results of this investigation were not considered in the standard specifications for concentrates valid at present, it is recommended that,

Card 1/2

KOSHELYUK, Ye.G.; NEDUZHKO, N.Ya., dorozhnyy [illegible] (stantsiya Zachepilovka, Stalinskoy [illegible]); YEGOROV, M.I., dorozhnyy master (stantsiya Kakhovka, Stalinskoy dorogi); GUTYAN, A.M., inzh.; KOREN', P.T., putevoy obkhodchik (Vil'nyus); GRISHANKOV, V.G., putevoy obkhodchik (Vil'nyus); KURSHNEVA, M.N., dezhurnaya po pereyezdu (Vil'nyus); BALAKIN, B.N.; PASECHNIK, A.I.; CHERDANTSEV, A. Ye., dorozhnyy master (stantsiya Verkh-Neyvinsk, Sverdlovskoy dorogi); STROCHKOV, A.A., inzh.

Letters to the editor. Put' i put.khoz. 4 no.2:40-42 F '60. (MIRA 13:5)

1. Mekhanik puteizmeritel'noy telezhki, stantsiya Kovel', L'vovskoy dorogi (for Koshelyuk). 2. Zamestitel' nachal'nika distantsii puti, stantsiya Galich, Severnoy dorogi (for Balakin). 3. Inzhener distantsii, stantsiya Sambor, L'vovskoy dorogi (for Pasechnik).
(Railroads)

GRISHANKOV, G. Ye.

Typical landforms of the Central Russian Upland. Nauch. zap. Ver. otd. Geog. ob-va; 36-43 '63. (MIRA 17:9)

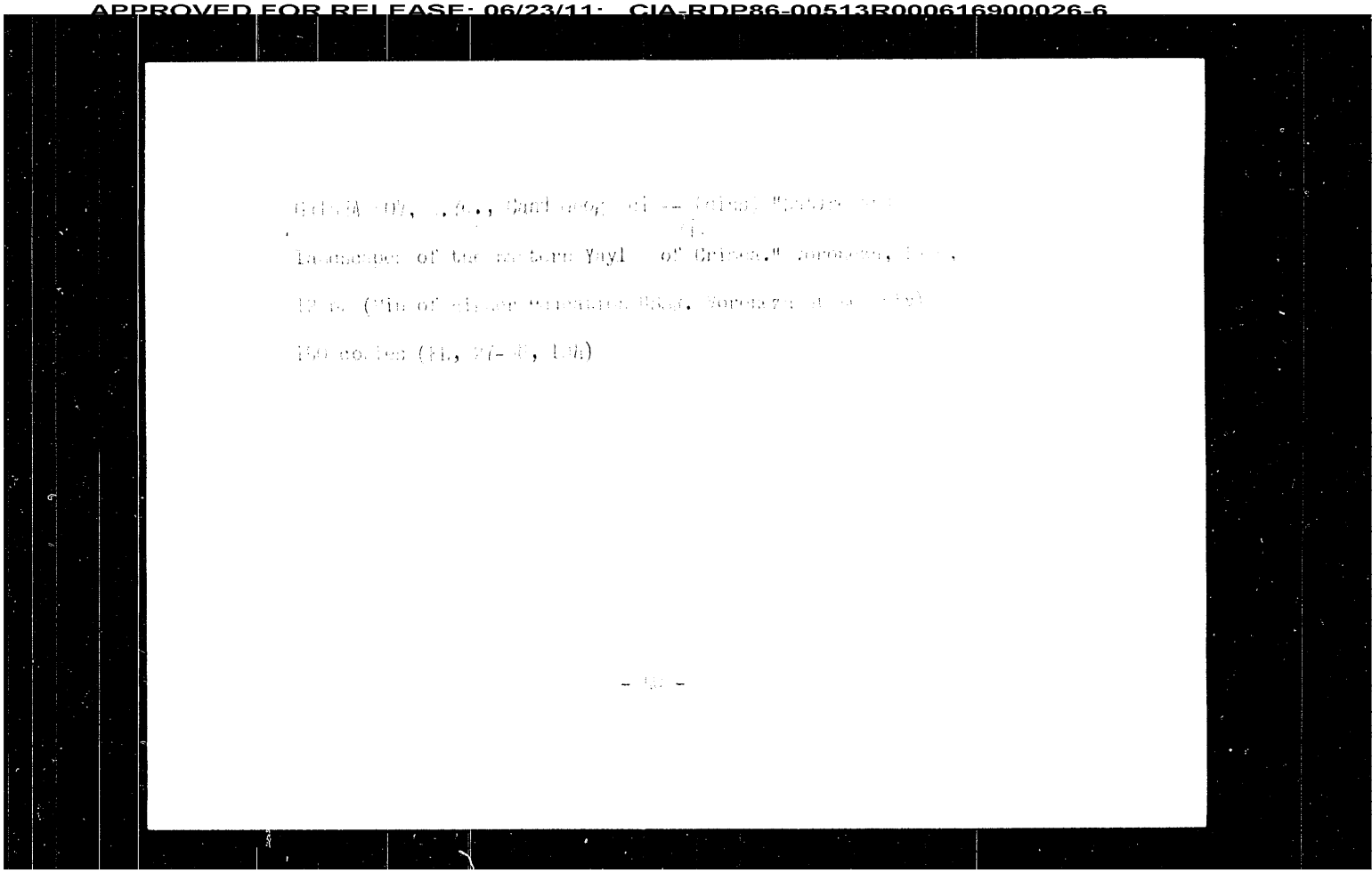
GRISHANKOV, G.Ye.

Correspondence between the types of landscape and farm lands in the physicogeographical regions of the Central Russian Upland within the boundaries of Central Black Earth Region. Izv.Vor.otd.Geog.ob-va no.3:53-60 '61. (MIRA 15:11)
(Central Russian Upland--Agricultural geography)

GRISHANKOV, G.Ye.

Distinguishing types of land forms in mountainous Crimea. Nauch.dokl. vys.shkoly; geol.-geog.nauki no.2:206-209 '58. (MIRA 12:2)

1. Voronezhskiy universitet, geograficheskiy fakul'tet, kafedra fizicheskoy geografii.
(Crimea--Physical geography)



GRISHAKOV, S. Ye.:

Grishakov, S. Ye.: "The nature and conditions of the western Tegin Mountains of the Crimea," Min higher education USSR. Voronezh state U. Voronezh, 1955. (Dis. orbit. for the Degree of Candidate in Geographic Sciences)

SO: Knizhnaya letopis', No 27, 1956. Moscow. [illegible]; No.

GRISHANKOV, A.F., inzh.

Device for reed bundling into packages. Bum.prom. 37 no.11:9-10 N '62. (MIRA 15:12)
(Kherson--Woodpulp industry--Equipment and supplies)

DERBENTSEV, F.F., kand.khim.nauk; GRISHANKOV, A.F., inzh.

Preparing reeds (Phragmites communis trinuis) for transportation, storage, and processing. Bum.prom. 34 no.9: 20-22 S '59. (MIRA 13:2)
(Reed (Botany))

PERLOV, S.A.; GRISHANKOV, A.F., inzh.

Testing cane harvesting machines. Bum. prom. 33 no.9:32 S '58.
(MIRA 11:10)

1.Glavnyy inzhener stroyashchegosya Khersonskogo tsellyuloznogo zavoda (for Perlov). 2.Ukrainskiy nauchno-issledovatel'skiy institut tsellyuloznoy i bumazhnoy promyshlennosti (for Grishankov).
(Harvesting machinery--Testing)

GRISHANKOV, A.F., inzh.

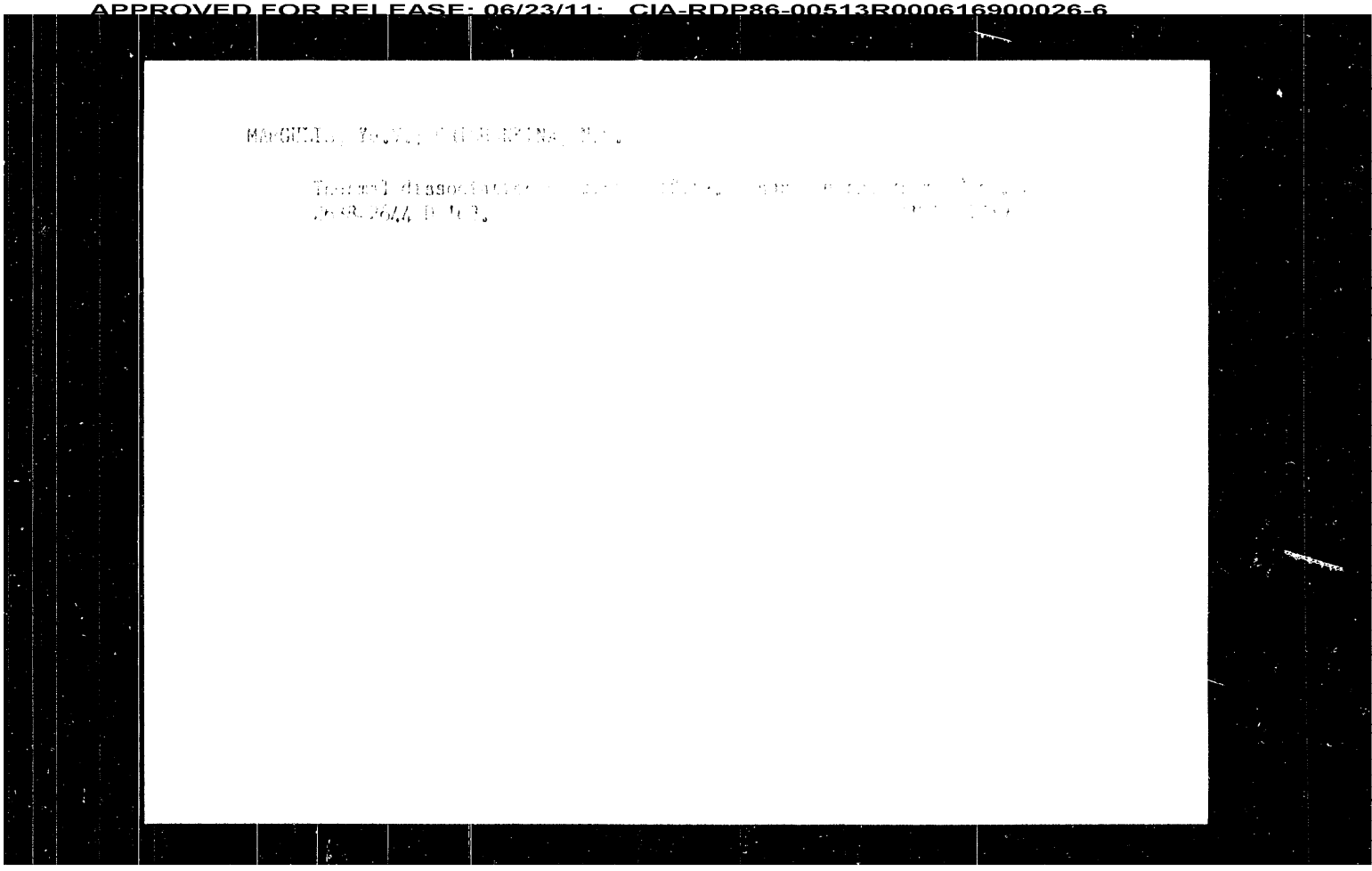
Reeds of the lower Dnieper swamps. Bum. prom. 33 no.2:19-20 F '58.
(Dnieper River) (Grasses) (MIRA 11:3)

MARGULIS, Ye.V.; KOPYLOV, N.I.; GRISHARKINA, N.S.

Formation of solid phase during thermal decomposition of cadmium sulfate in the system $CdSO_4 - 2CdO \cdot CdSO_4$. Zhur.neorg.khim. 10 no.4:1002-1005 Ap '65. (MIRA 18:6)

GRISHANKINA, N.S.; MAKHULIN, Ye.V.

Chemical phase analysis for various forms of sulfur in the system Pb - S - O. Sbor.trud. VNIINSVINETS no.9:167-173 '65. (MIRA 18:11)



The Hydrophobization of Paper by Alkylacetoxysilanes and -Siloxanes. Communication V.

In all experiments the treated paper was heated finally for 3 hours to 105-110°C. To reduce this long time the ethyl ether of the ortho-titanic acid was used as a catalyst. It reduced the time to 10-30 min at 105-110°C and to 2 min at 150°C. For hydrophobization 2-5% solutions of the preparations A-12 and A-16 are recommended.
There are: 6 tables, 2 graphs and 2 Soviet references.

ASSOCIATION: Institut khimii silikatov AN SSSR (Institute of the Chemistry of Silicates of the AS USSR)

SUBMITTED: November 27, 1957

5(3) SOV/80-32-5-31/52

AUTHORS: Vorontkov, M.G., Davydova, V.P., Irishanina, N.P.

TITLE: The Hydrophobization of Paper by Alkylacetoxysilanes and -Siloxanes. Communication V.

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 1106-1112 (USSR)

ABSTRACT: Acetoxysilanes cited in Tables 1 and 2 were used for the hydrophobization of paper. The water-resistance of the paper increases, if it is kept longer in 2,5 - 10%-solutions of methyltriacetoxysilane. The optimum are 2,5 - 5% solutions and 10 min. For ethylacetoxysilane the concentration must be above 5% and the time more than 10 min. Phenyl- and n-butyl-triacetoxysilane are more effective than methyltriacetoxysilane. The effect of tetraacetoxysilane disappears with the time due to the esterification of the hydroxyl groups, which form orthosilicic cellulose esters. A mixture of 20% of methylalkoxydiacetoxysilane and 80% of methyltriacetoxysilane increases the hydrophobic properties and improves the quality of the treated material. The hydrophobization by the preparations A-12 and A-16 increases the water-resistance of filter paper from 2 to 100-110 cm, of wrapping paper from 15 to 108-119 cm and of kraft paper from 132 to 190-220 cm.

Card 1/2

USSR/General Problems of Pathology. Pathological Physiology of In- U-3
fection

Abs Jour : Ref Zhur - Biol., No 13,, 1958, No 61012

Author : Grishanina M.G.
Inst : Arkhangel'sk Medical Institute
Title : The Effect of a Prolonged Administration of Antigen on the Resistance of an Organism to Infection

Orig Pub : Sb. tr. Arkhang. med. in-ta, 1957, vyp. 15, 126-130

Abstract : Rabbits were subjected to frequency and prolonged (up to 64 days) administrations of an antigen (B. suipestifer). One and a half month later, the titer of agglutination showed a down ward trend (for instance: in two weeks 1:6000, in 6 weeks 1:800), regardless of the continued administration of the antigen. The prophylactic properties of the serum were manifested faintly, especially during the period of an immunological inhibition. The vigor, with which an organism delivered itself from microbes, during the phase of immunological reaction, decreased to a considerable extent.

Card : 1/1

L 16724-66 EWT(m) DIAAP

ACC NR: AP6008460 SOURCE CODE: UR/0089/65/019/005/0459/0460

AUTHOR: Grishanin, Ye. I.; Kukavadze, G. M.; Lependin, V. I.; Mamelova, L. Ya.; Morozov, I. G.; Orlov, V. V.; Pilipets, D. T.

ORG: none

TITLE: Measurement of the absorption cross section of sup 156 Gd

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 459-460

TOPIC TAGS: gadolinium, neutron cross section, thermal neutron, neutron irradiation, mass spectrometer, neutron spectrum, nuclear reactor, neutron

ABSTRACT: Samples of gadolinium oxide were irradiated in a reactor with thermal neutrons to various integral fluxes. The thermal-neutron absorption cross section of ^{156}Gd was determined from the values of the ^{156}Gd and ^{157}Gd concentrations in the irradiated samples, measured on a mass spectrometer, and the value of the ^{157}Gd absorption cross section, obtained by averaging the cross section from resonance parameters over the neutron spectrum of the reactor. The cross section for 0.025-ev neutrons was found to be 13 ± 3 barns. [NA]

SUB CODE: 18, 20 / SUBM DATE: 02Apr65 / OTH REF: 003

Card 1/1

L 33224-65

ACCESSION NR: AP4020330

5

geneous cylindrical rods was also studied and found to be insignificant. In almost all the reactors the control rods are located in special channels, and when the rod is withdrawn the channel remains in the reactor. Thus the effectiveness of the rod in the channel equals the difference between the combined effectiveness of the rod and channel and that of the channel without the rod. The results obtained in the case of homogeneous rods justify the hope that the newly developed methods are fairly accurate. "In conclusion the author expresses his gratitude to A. F. Korneyeva, R. A. Danilova, and Z. S. Novitskaya for calculating the table of probabilities, and to V. P. Slizov and V. V. Orlov for their friendly assistance and valuable advice." Orig. art. has: 3 figures, 21 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 07Feb63 ENCL: 00

SUB CODE: NP NO REF SOV: 005 OTHER: 003

Card 2/2

L 3224-65 EWT(m)/EPF(c)/EPF(n)-2/EWG(m)/EPR Pr-4/Ps-4/Pu-4 IM

ACCESSION NR: AP4020330 S/0089/64/016/003/0234/0238

AUTHOR: Grishanin, Ye. I.

TITLE: Calculating the effectiveness of multilayer control rods

SOURCE: Atomnaya energiya, v. 16, no. 3, 1964, 234-238

TOPIC TAGS: boundary condition, multilayer rod, control rod, neutron distribution, diffusion approximation, neutron absorption, angular distribution, collision, multiple collision, rod albedo, boron carbide rod, steel casing

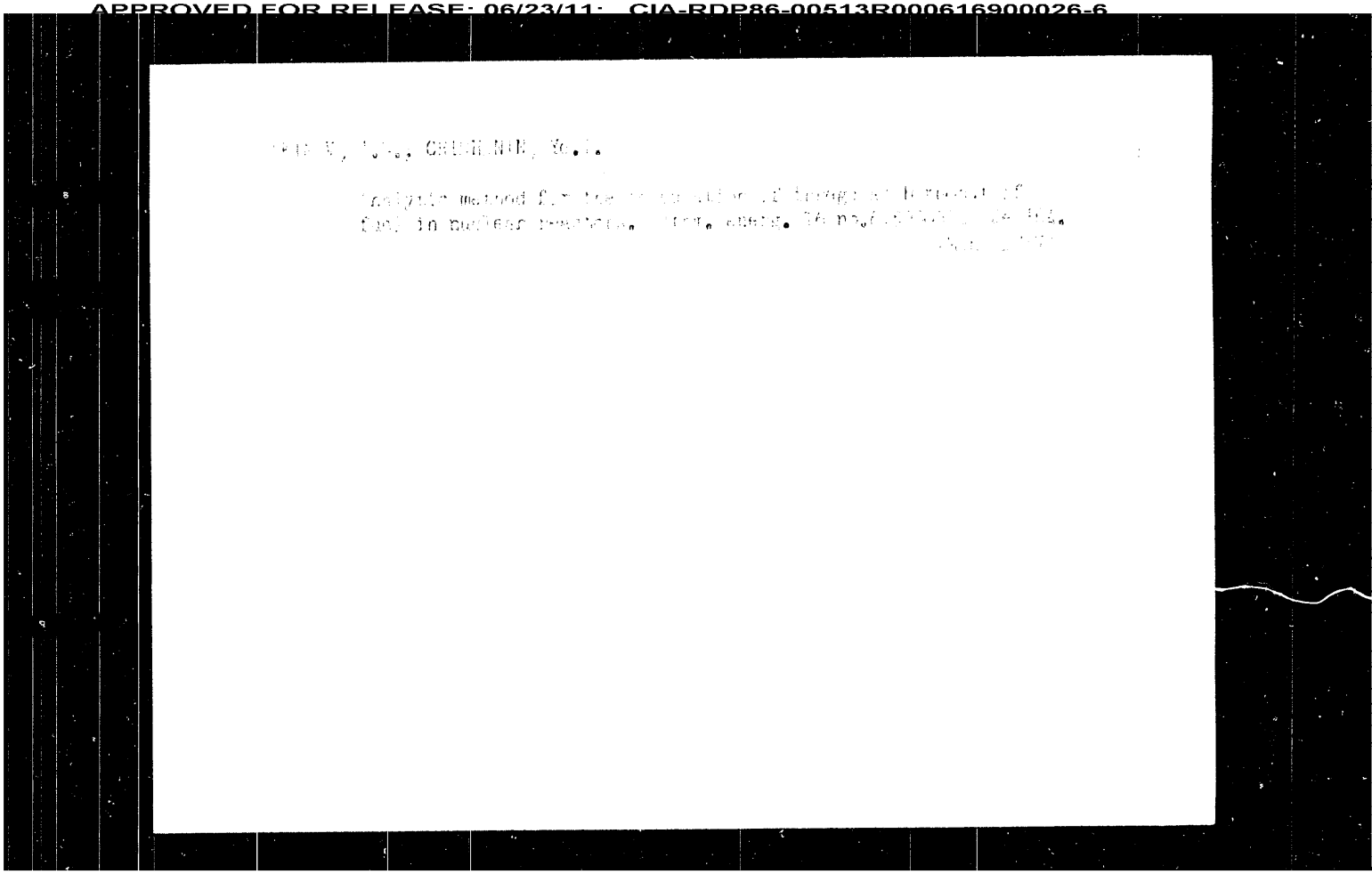
ABSTRACT: A simple method of calculating the effective boundary conditions for multilayer cylindrical control rods is described which is based on calculating the probability of the neutrons rod's absorbing. The method may be used for determining the effect of steel casings on rod efficiency. The probability calculation is simplified by assuming a rod consisting of two regions, external and internal surfaces, that are affected by the incident neutron fluxes. The effect of the anisotropy of an incident neutron flux on the probability of neutron absorption by homo-

Card 1/2

ORLOV, V. V.; ANDREYANOV, V. S.; GRISHANIN, Ye. I.

"Choice of some optimum characteristics of control elements for nuclear reactors."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.



GRISHANIN, Ye.I.; PUGACHEVA, Ye.V.

Calculating the efficiency of control rods containing a moderator.
Atom energ. 16 no.3:238-244 Mr '64. (MIRA 17:3)

GRISHANIN, Ye.I.

Calculating the efficiency of multilayer control rods. Atom energ. 16 no.3:234-238 Mr '64. (MIRA 17:3)

23735

S/089/61/010/006/001/011
B102/B212

A method of partial fuel reloading ...

7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: S. Lewis, B. Eng. J. Brit. Nucl. Energy Conf., 4, no. 3, 184 (1959).

SUBMITTED: September 7, 1960

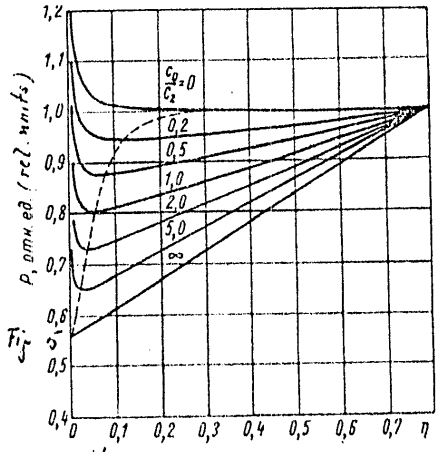


Fig. 5

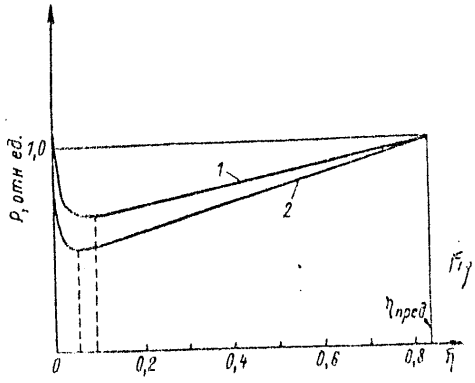


Fig. 6

Card 4/4

η value is obtained from the condition: $dP/d\eta = 0$ $\eta_{opt} = t_1/(\frac{c_0}{c_2} + t_0)N \sim \sqrt{c_2/c_0}$, since $t_0 \ll c_0/c_2$. If $c_0 \to 0$, according to (15) P will be a minimum if $\eta = 1$. These expressions are valid for an infinite lattice of fuel channels if the regeneration is taken into account. Numerical calculations have been done for the first nuclear power station ($\eta_{opt} = 0.077$) and for the Beloyarskaya atomnaya elektrostantsiya im. I. V. Kurchatova (Beloyarsk nuclear power station imeni I. V. Kurchatov). Fig. 5 shows $P(\eta)$ for various values of c_0/c_2 (c_0 denotes the price of new fuel elements) and Fig. 6 shows $P(\eta)$ with regeneration (curve 1) and without regeneration (curve 2). Concluding it is found that: 1) Partial periodic fuel reloading will increase the burn up depth without increasing the initial reloading; 2) this type of operation requires less shim rods; 3) the uniformity of the energy release will be improved; 4) consideration of the regeneration will shift the optimum η- value toward higher values. The authors thank A. K. Krasin for interest, O.D. Kazachkovskiy and M. Ye. Minashin for suggestions and advice. There are 6 figures and

1958; (number of the lecture not given). At first the theory itself is outlined. Later on, it is investigated what part of the fuel has to be reloaded periodically (optimum amount of fuel to be exchanged) in order to keep the costs P of the electric energy to a minimum. From the condition that P shall be a minimum, the optimum amount is calculated with the help of formula (15): $P = \frac{1}{E}\left[(c_1+c_2t_o)N+c_2t_1(\frac{1}{\eta}-q)+c_2t_2q+\frac{c_2T_k}{b}\right]$, where c_1 denotes the difference in costs between virgin fuel and the fuel removed from the reactor; c_2 the consumption (per day); T_k the mean length of operation of a fuel channel (in effective days) during which the power station has generated E kwh of electric energy; b the load coefficient of the station; t_o the time required to reload a fuel channel; t_1 the total time of the shut down and the starting up of the reactor; t_2 the down time of the power station for scheduled preventive maintenance and q the number of such shut downs during a time T_k; η the reloading factor equal n/N (from a total of N fuel channels n will be reloaded). The optimum

Card 2/4

23730
S/089/61/010/006/001/011
B102/B212

21.1330

AUTHORS: Grishanin, Ye. I., Ivanov, B. G., Sharapov, V. N.

TITLE: A method of partial fuel reloading in nuclear reactors

PERIODICAL: Atomnaya energiya, v. 10, no. 6, 1961, 565 - 571

TEXT: The present paper deals with a theoretical investigation of the partial fuel reloading on the burn up depth of uranium in the fuel channel of a reactor. In this fuel reloading method the fuel is gradually reloaded according to the burn up in order to keep the reactivity excess to a minimum. The highest burn up depth in the fuel channel is obtained with a continuous fuel reloading, this case was already discussed by B. L. Ioffe and L. B. Okun' ("Atomnaya energiya", no. 4, 80 (1956)). In general a fuel reloading will require the shut down of the whole reactor (with the exception of the Calder-Hall reactors). The method of the partial periodic fuel reloading has been tested for the first time (1956) with the reactor of the first nuclear power station in the USSR (Atomnaya energiya" II, no. 2, 109, (1957)). The Russian S. M. Feynberg talked about the theory of this method at the 2nd Geneva Atomic Conference,

IX c

Card 1/4

GRISHANIN, V.

Instructive lesson. Sov. foto 19 no.6:17-22 Je '59.
(MIRA 12:9)

(Photography--Exhibitions)

GRISHANIN, V.

Naturalist derangements in the work of photographers. Sov.foto.
18 no.11:10-13 N '58. (MIRA 11:12)
(Photography--Exhibitions)

GRISHANIN, S. S. (Leningrad)

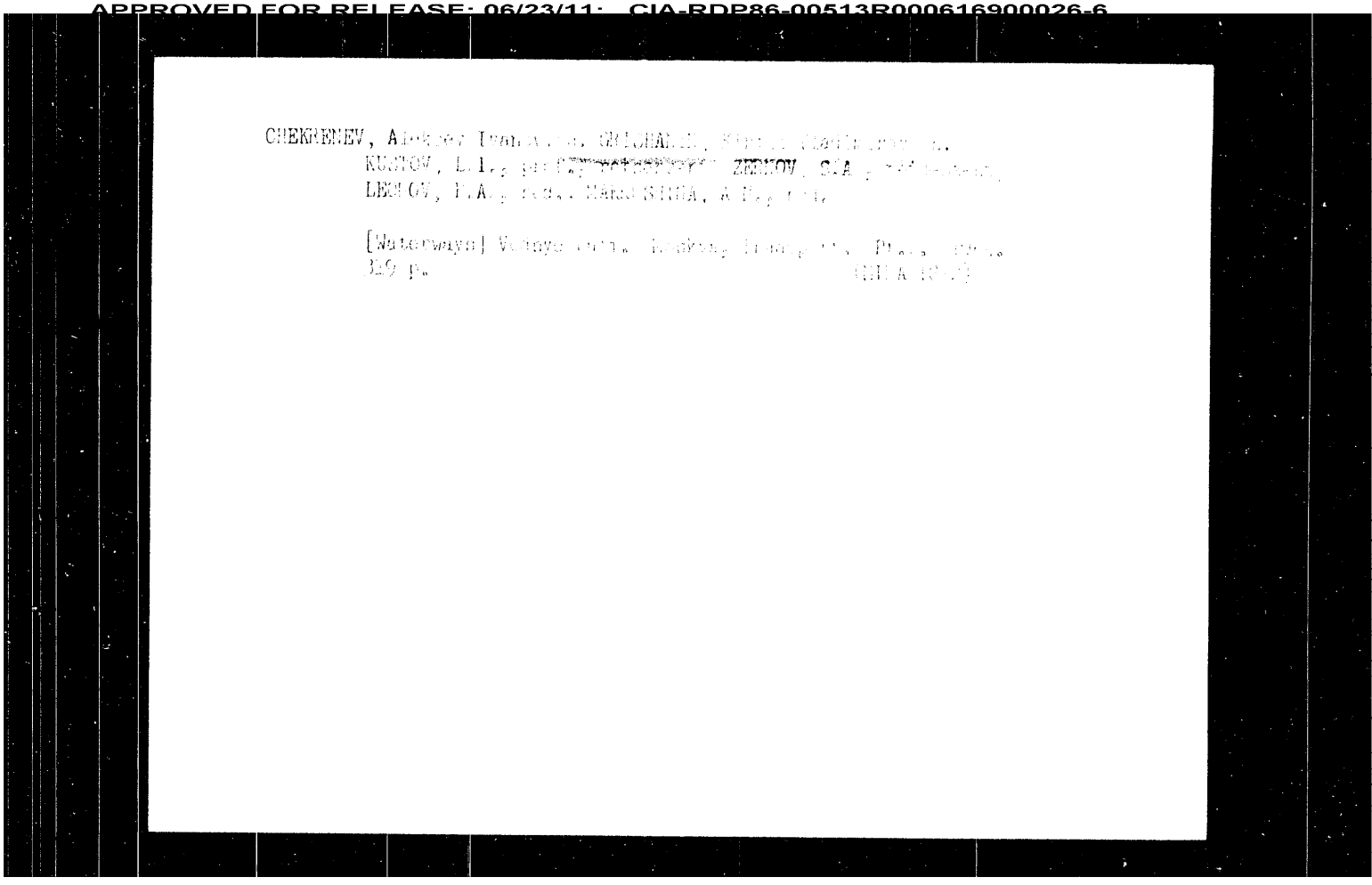
"Mean Velocity Distribution in Turbulent Flows Bounded by Rigid Surfaces,"

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000616900026-6

GRISHANIN, K.V., doktor tekhn.nauk

Bottom current dynamics in a stationary eddy. Trudy LIVT no.61:36-43 '64. (MIRA 18:11)



CHEKMENEV, A[illegible]
KUSTOV, L.I., per[illegible] ZEMTSOV, S.A., [illegible]
LEBEDEV, P.A., red.; MARKUSHINA, A.P., red.

[Waterways] Vodnye puti. Leningrad, Izd-vo "Plakat," 1965.
329 p. (MIRA 18:9)

GRISHANIN, K.V. (Leningrad):

"Bottom flow in a stationary eddy ."

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

GRIGHANIN, K.V., kand. tekhn. nauk, dotsent

Turbulent flow of a fluid in a two-dimensional pressure [illegible].
Trudy LIVT no.46:23-29 '63 [illegible]

GRISHANIN, K. V., kand. tekhn. nauk

Pressure fluctuation at the bottom of a flow in linking races according to certain types of submerged flows. Izv. vys. ucheb. zav.; energ. 6 no.7:89-96 Jl '63. (MIRA 16:8)

1. Leningradskiy institut vodnogo transporta. Predstavlena kafedroy vodnykh putey i izyskaniy.

(Hydrodynamics)

GRISHANIN, Kirill Vladimirovich; TUMANOV, V.V., retsenzent; GILYAROV, N.P., red.; VOLCHOK, K.M., tekhn. red.

[Hydraulics]Gidravlika. Izd.2., perer. Leningrad, Izd-vo "Rechnoi transport," 1962. 268 p. (MIRA 16:3)
(Hydraulics)

CHEKRENEV, A.I., doktor tekhn. nauk, prof.; ILINSKIY, V.A., dots. [deceased]; GRISHANIN, K.V., kand. tekhn. nauk, dots.; SELEZNEV, V.M., kand. tekhn.nauk; GILYAROV, N.P., dots., kand. tekhn. nauk; KOSTENKO, N.M., inzh.; Prinimali uchastiye: GRIGOR'YEV, S.N., inzh.; TEREKHOV, I.B., inzh.; KHIZHOV, B.M., inzh., red.; VOLCHOK, K.M., tekhn. red.

[Practical manual on channel improvement operations in inland waterways]Prakticheskoe posobie po proizvodstvu vypravitel'nykh rabot na vnutrennikh vodnykh putiakh. Leningrad, Izd-vo "Rechnoi transport," 1961. 275 p. (MIRA 16:2)

1. Russia (1917- R.S.F.S.R.)Glavnoye upravleniye vodnykh putey i gidrotekhnicheskikh sooruzheniy.
(Rivers--Regulation)

Distribution of velocity ...

value decreases with increasing roughness. For those values of relative roughness which are characteristic for technical pipelines, the value of Karman's parameter remains constant for a wide range of rough surfaces: steel, cast-iron, and concrete.
[Abstracter's note: Complete translation]

Card 2/2

B/124/63/000/001/029/080
D234/D308

AUTHOR: Grishanin, K.V.

TITLE: Distribution of velocity in turbulent flows in hydraulic rough pipes

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1963, 55, abstract 1B335 (Tr. Leningr. in-ta vodn. transp., 1962, no. 26, 5-13)

TEXT: By processing the well-known experimental data of Nikuradse on velocity distribution in hydraulic smooth pipes and in pipes with uniform granular roughness, the author confirms the conclusion of C.B. Millican (Proc. Vst. Intern. Congress Appl. Mech. New York, London, 1939) that the values of dimensionless velocity defects in rough pipes are smaller than in hydraulic smooth pipes. The author investigates the dependence of Karman's parameter on the relative roughness for a quadratic domain of resistance and finds that for small relative roughnesses the above parameter conserves a constant value $\varkappa = 0.43$. For large relative roughnesses its

Card 1/2

GRISHANIN, K.V., kand.tekhn.nauk, dotsent

Effect of the viscosity of a liquid on speed distribution the turbulent core of a flow through hydraulically polished pipes. Izv. vys. ucheb. zav.; radiotekh. 4 no.5 17-24 S-O '61. (MIRA 14:10)

(Turbulence)

$\frac{\partial u}{\partial y} = \frac{1}{\kappa} \frac{u_x}{y}$. This means that for small y/δ the distribution of turbulent viscosity across the layer is linear (21) $\frac{A}{\rho u_x} = \frac{y}{\delta}$. Taking account of (21) and (19) it may be concluded that the "Karman constant" κ in the turbulent layer is not constant but decreases along the layer according to the formula $\kappa \sim \sqrt{c'_f}$ (22). This result had already been shown in Ref. 7 for a less general case. Formula (22) suggests that in the turbulent boundary layer on the plate a universal distribution in the form of (24) $\frac{u_{\infty} - u}{u_x} = \phi\left(\frac{y}{\delta}\right)$ exists besides the universal velocity distribution in the form of (3). Nikuradze is mentioned. There are 7 references, 4 of which are Soviet.

ASSOCIATION: Institut vodnogo transporta, g. Leningrad (Institute of Water Transportation, City of Leningrad)

10.2000

80274
S/170/60/003/02/05/026
B008/B005

AUTHOR: Grishanin, K. V.

TITLE: Similarity Laws for a Turbulent Boundary Layer on a Flat Plate

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 2, pp. 31-35

TEXT: This paper deals with two similarity laws of velocity profiles. No selection between them can be made on the basis of experimental data. For this reason, the differential equations of the boundary layer were analyzed. The existence of the similarity law (3) $\frac{u}{u_\infty} = \eta_t\left(\frac{y}{\delta}\right)$ is admitted for the turbulent boundary layer on a flat plate. The use of Bussinesk's hypothesis suggests the presence of a universal dimensionless function (19) $\frac{A}{\rho u_x \delta}\sqrt{\frac{2}{c'_f}} = F\left(\frac{y}{\delta}\right)$, where $c'_f = 2u_x^2/u_\infty^2$ is the local friction coefficient. There is no doubt that the distribution of the velocity gradient near the wall follows the hyperbolic law

Card 1/2

Turbulent boundary layer on a ...

on $S_* = \text{const}$. The magnitude of this constant and the appearance of the function F in general, is determined experimentally. Particular cases of turbulence in the flow along an infinite plane surface, a turbulent boundary layer on the plate and a turbulent open stream are worked out. [Abstractor's note: Complete translation].

Card 2/2

S/124/61/000/011/016/026
D257/D305

AUTHOR: Grishanin, K.V.

TITLE: Turbulent boundary layer on a plane surface

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 11, 1961, 30, abstract 11B544. (Tr. Leningr. in-ta vodn. transp. 1960, no. 7, 25 - 31)

TEXT: Turbulent motion of incompressible fluid near a flat rigid wall as boundary is considered theoretically. The author assumes that the coefficient of turbulent exchange at any point of the stream can be expressed by interconnected values of the time T and length l. Time T means here a mean period of large scale oscillations, while length l expresses a linear magnitude (amplitude) of transverse motion of the fluid, and varying in the transverse plane according to geometrical properties of the stream. The basic equation describing the considered motions, is of the type $S_* = F(R_*)$. For large Reynold's numbers, the motion of large vertices shall not be dependent on viscosity, hence from some value of R_*

Card 1/2

Distribution of averaged...

for v_T, containing, in the case of the plane tube and open stream, two experimentally determinable parameters. These magnitudes appear also in logarithmic formulas proposed for the distribution of mean velocity. Their determination, based on the known results of Nikuradze, suggests a formula well in agreement with those results for velocity diminution in smooth tubes for large Reynolds' No's. 7 references. [Abstracter's note: Complete translation.]

Card 2/2

S/124/62/000/001/026/046
D237/D304

10.1200

AUTHOR: Grishanin, K. V.

TITLE: Distribution of averaged velocities in turbulent streams

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1962, 90, abstract 1B621 (Tr. III Vses. gidrolog. s"yezda. v. 5. L., Gidrometeoizdat, 1960, 37-45)

TEXT: A change in Prandtl's method of determining turbulent viscosity v_T is proposed, and the assumption suggested is that it should depend not on the local average velocity gradient, but on some frequency constant over the whole cross-section of the flow. By retaining the accepted relation between v_T and the displacement path and introducing for the latter some assumptions based on similarity considerations, the author obtained formulas

1B

Card 1/2

GRISHANIN, K.V., kand.tekhn.nauk, dotsent

Distribution of speeds of the turbulent movement of a liquid in pipes and in open channels. Trudy LIIVT no.26:32-41 '59. (MIRA 14:9)

(Turbulence)

Some Regularities of a Turbulent Boundary Layer on the Smooth Flat Plate

number R_x:

$$\chi = Sh_* = 1{,}189\ R_x^{-0.07}$$

There are 13 references, 6 of which are Soviet, 2 German, 4 English and 1 French.

ASSOCIATION: Institut inzhenerov vodnogo transporta (Institute of Water Transport Engineers), Leningrad

Some Regularities of a Turbulent Boundary Layer on the Smooth Flat Plate

in the boundary layer. The author then introduces several numbers of the Strouhal type Sh and shows that the frequency n is determined through the velocity of the outer flow u and the distance from the front edge of the plate by the following relationship:

$$n = Sh_x \frac{u_\infty}{x}$$

Analyzing observational evidence available the author arrives at the conclusion that Sh_x = const and its value is of the order of unity. With the aid of these relations the author gives a theoretical basis of the laws governing the changes in the values of coefficient of local friction, layer thickness and the frequency of pulsations along the length of the plate. He establishes further the relation between the "turbulence constant" of the semi-empirical theories of Prandtl and Karman χ and the basic parameters of motion in the layer by showing that the Karman constant is identical with the Strouhal number

$$\chi = Sh_* = \frac{n\delta}{u_*}$$

where u_* is the local dynamic velocity. Making use of the empirical relations of Nikuradze, the author establishes the law of χ-variation in dependence of the value of the Reynolds

AUTHOR: Grishanin, K.V. SOV/170-59-3-3/20

TITLE: Some Regularities of a Turbulent Boundary Layer on the Smooth Flat Plate (Nekotoryye zakonomernosti turbulentnogo pogranichnogo sloya na gladkoy ploskoy plastine)

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 3, pp 19-28 (USSR)

ABSTRACT: The author considers a turbulent boundary layer on a smooth flat plate streamlined by a viscous incompressible liquid in the lengthwise direction. The transverse movements of the liquid, which give rise to the effect of virtual viscosity, are characterized in each point of the flow by the scales of length ℓ and time T. Introducing the quantity $n = \frac{1}{T}$, which represents the average frequency of large-scale pulsations of transverse velocity v, the author gives the following formula for the coefficient of turbulent exchange $A = \rho n \ell^2$. Experimental data obtained by Ye.M. Minskiy [Ref. 2] and others warrant the statement that the frequency n of the quasiperiodic turbulent oscillations of the first order is a constant quantity for a given cross section. Therefore the change in the value of the turbulent exchange coefficient is completely determined by the changes in the l-value, i.e. by the geometrical properties of the large-scale turbulence

Card 1/3

SEREBRYAKOV, Viktor Vasil'yevich; SOLODKIN, V.K., red.; GRISHANIN, K.V., retsenzent; VINOGRADOVA, N.M., red.izd-va; YERMAKOVA, T.T., tekhn.red.

[Problems in river hydraulics] Zadachnik po rechnoi gidravlike. Moskva, Izd-vo "Rechnoi transport," 1959. 150 p. (MIRA 12:3)
(Hydraulics--Problems, exercises, etc.)

A Formula for Calculating Nonerosive Flow Velocities

$$U_o = 0.75\sqrt{g\left(\frac{\rho_s}{\rho} - 1\right) d \log_{10}}$$

wherein ρ_s and d are the soil density and grain size, ρ is the density of the water, and h is the flow depth. The limits of applicability of this formula are not given in the paper. We note, however, that data obtained by V.S. Knoroz, Chen-Kinya, and other authors seem to indicate that the lower limit of the quadratic zone at the instant that the particles start to move corresponds to values of d ranging from 1.5 mm to 2.0 mm.

I.I. Levi

SOV/124-58-8-8765

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 62 (USSR)

AUTHOR: Grishanin, K.V.

TITLE: A Formula for Calculating Nonerosive Flow Velocities (Formula nerazmyvayushchey skorosti)

PERIODICAL: Tr. Leningr. in-ta inzh. vodn. transp., 1957, Nr 24, pp 24-30

ABSTRACT: The question of a rational relationship is examined for the nonerosive flow velocity U_0 in a region characterized by flow conditions wherein resistance to the motion of flow is proportional to the square of the flow velocity. By omitting from his examination the essence of the phenomenon and proceeding only from general considerations the author evolves from his own elementary plottings a formula similar in structure to one evolved by the reviewer back in 1932 (which fact the author mentions). Along with a formula of the logarithmic type he considers formulae of the exponential type (e.g., that of G.I. Shamov) to be acceptable also. Analyzing the experimental data, he determines the constants in his formula, which then assumes the form

Card 1/2

SOV: 124-57-8-9150

Translation from: Referativnyy zhurnal, Mekhanika 1957 Nr 8 p 88 (USSR)

AUTHOR: Grishanin, K. V.

TITLE: The Energy Dissipation in Sediment carrying Flows (Rasseivanive energii v potokakh, perenosyashchikh vzvesheennyye nanosy)

PERIODICAL: Tr. Leningr. in-ta inzh. vodn. transp., 1956 Nr 23, pp 46-52

ABSTRACT: The energy dissipated by free-surface sediment carrying flows per unit time can be determined as the difference between the power exerted by the force of gravity acting on a prism imagined isolated within the flow and the power exerted by the friction force acting on its lower face; the prism, here, consists of a liquid layer compressed between the free surface and some plane parallel thereto. In their application to pure-liquid flows (flows without suspensions) the relationships (19) through (22) adduced by Grishanin were given previously by G. I. Taylor (Proc. Roy. Soc., London, 1935, Vol A151, Nr 873, pp 459-460).

M A Dementyev

Card 1/1

The Steady Turbulent Motion of a Fluid in a Conical Diffuser (cont.)

and

$$-8\vartheta_0 \int_0^1 \tilde{v}^2\, d\tilde{\vartheta} = \lambda_\partial + 4\tilde{v}_* \left\{ x \left[\int_0^1 \tilde{v}\, d\tilde{\vartheta} - \tilde{v}_{max} \right] - \tilde{v}_* \right\} \qquad (4)$$

where $\tilde{v}_{max}$ is the relative velocity of the axis of the diffuser. From equation (2), in addition, the author obtains an approximate formula for the velocity profile across the duct section. The result is a system of three equations, namely, (3), (4), and the velocity-profile equation. This system contains 4 unknowns namely, x, λ_∂, $\tilde{v}_*$, and $\tilde{v}(\tilde{\vartheta})$. In order to complete the system the author uses experimental data for the drag coefficient of diffusers with small angles of divergence. The agreement between the calculated velocity profile thus obtained and the experimental results of G. A. Gurzhiyenko (Tr. TsAGI, 1939, Nr 462) for conical diffusers with 1^o and 2^o divergence was found to be satisfactory.

A. S. Ginevskiy

Card 3/3

The Steady Turbulent Motion of a Fluid in a Conical Diffuser (cont.)

$$\tilde{\vartheta} = \frac{\vartheta}{\vartheta_0}, \quad \tilde{v} = \frac{v}{v_{sr}}, \quad \text{and} \quad \lambda_\vartheta = -\frac{4 r \vartheta_0}{v_{sr}^2} \frac{\partial}{\partial r} \left(\frac{p}{\rho} \right)$$

Assuming further that the variation of the turbulent-exchange coefficient A across the duct is expressed by a function of the type

$$A = \rho v_* r \vartheta_0 \times \tilde{\vartheta} (1-\tilde{\vartheta})$$

where v_* is the dynamic velocity and x is the turbulence constant, the author substitutes the expression for τ derived therefrom in (1) and, as a result, obtains the following differential equation:

$$-8 \vartheta_0 \tilde{v}^2 = \lambda_\vartheta + 4 \tilde{v}_* \times \left[(2-3\tilde{\vartheta}) \frac{d\tilde{v}}{d\vartheta} + \tilde{\vartheta} (1-\tilde{\vartheta}) \frac{d^2 \tilde{v}}{d\vartheta^2} \right] \qquad (2)$$

where $\tilde{v}_* = v_*/v_{sr}$. The term-by-term integration of (1) and (2) across the duct yields the relationships

$$\lambda_\vartheta = 8 \tilde{v}^2 - 16 \vartheta_0 \int_0^1 \tilde{v}^2 \tilde{\vartheta} \, d\tilde{\vartheta} \qquad (3)$$

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AUTHOR: Grishanin, K. V.

TITLE: The Steady Turbulent Motion of a Fluid in a Conical Diffuser Having a Small Divergence Angle (Ustanovivsheyesya turbulentnoye dvizheniye zhidkosti v konicheskom diffuzore s malym uglom raskrytiya)

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ABSTRACT: Assuming axial symmetry and a radial character of the flow in a conical diffuser having a small divergence angle $2\vartheta_0$, the author obtains a differential equation of motion

$$-8\vartheta_0 \tilde{v}^2 = \lambda_\partial + \frac{4}{\rho v_{sr}^2 \tilde{\vartheta}} \cdot \frac{d(\tau\tilde{\vartheta})}{d\tilde{\vartheta}} \qquad (1)$$

in terms of the spherical coordinates r, ϑ, and φ. Here ρ is the density of the fluid, v_{sr} is the mean velocity in a given section, τ is the frictional shearing stress, $\tilde{\vartheta}$ is the relative angular coordinate, $\tilde{v}$ the relative local velocity, λ_∂ the drag coefficient of the diffuser, p the pressure,

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